WHAT IS CLAIMED IS:

1. A peptide inhibitor of glycogen synthase kinase-3 (GSK-3), comprising a polypeptide having between 7 and 20 amino acid residues and the amino acid sequence XZXXXS(p)X, wherein:

S(p)=phosphorylated serine or threonine,

X=any amino acid, and

Z=any amino acid except serine or threonine,

said amino acid sequence being a part of a natural substrate of GSK-3 substrate containing a single SXXXS(p) recognition motif, wherein S is serine or threonine and S(p) is a phosphorylated serine or threonine, in which S is replaced by said Z,

with the proviso that the polypeptide does not contain two or more SXXXS motifs, wherein S=serine, upstream of the S(p) residue,

said polypeptide being capable to inhibit the enzymatic activity of GSK-3.

2. A peptide inhibitor in accordance with claim 1, wherein said polypeptide has a length of from 10 to 13 amino acids.

3. A peptide inhibitor in accordance with claim 1, wherein said natural substrate of GSK-3 is cAMP response element binding (CREB) protein.

4. A peptide inhibitor in accordance with claim 3, wherein said polypeptide has a length of at least 10 amino acid residues.

5. A peptide inhibitor in accordance with claim 1, wherein said natural substrate of GSK-3 is heat shock factor-1 (HSF-1) protein.

6. A peptide inhibitor in accordance with claim 5, wherein said polypeptide has a length of at least 8 amino acid residues.

7. A peptide inhibitor in accordance with claim 1, having at least three amino acid residues upstream of the Z amino acid residue.

8. A peptide inhibitor in accordance with claim 7, wherein should the residue at the position three residues upstream of Z is a glutamic acid residue, said glutamic acid residue is replaced by any other amino acid residue.

9. A pharmaceutical composition, identified for use in the treatment of a biological condition mediated by GSK-3, comprising the peptide inhibitor of claim 1 in a pharmaceutically acceptable excipient.